

Table of Contents
Draft Environmental Document
Marine Protected Areas
in NOAA's
Channel Islands National Marine Sanctuary

VOLUME I

	Page
List of Tables	vii
List of Figures	xiii
Defined Terms	xvi
Conversion Table	xix
Executive Summary	E-1
Chapter 1. PURPOSE AND NEED FOR PROPOSED ACTION	1-1
1.1 Introduction	1-1
1.2 Location and General Characteristics of the Project Area	1-1
1.3 Project Objectives	1-3
1.4 Marine Protected Areas	1-5
1.5 Conclusion	1-17
Chapter 2. THE ENVIRONMENTAL DOCUMENT	2-1
2.1 Proposed Project	2-1
2.2 California Environmental Quality Act	2-1
2.3 Functional Equivalent	2-4
2.4 Scope and Intended Use of Environmental Document	2-4
2.5 Authorities and Responsibilities	2-5
2.5.1 Jurisdictions of Coastal and Ocean Waters	2-5
2.5.2 Resource Based Agencies and Commissions	2-7
2.6 Public Input	2-11
2.6.1 Marine Reserves Working Group Process	2-11

2.6.2 Outcome of the Marine Reserves Working Group Process	2-14
2.6.3 CEQA Process	2-15
2.7 Areas of Concern	2-16
2.8 Issues to be Resolved	2-18
Chapter 3. PROJECT DESCRIPTION	3-1
3.1 Proposed Project	3-1
3.2 Alternatives	3-11
3.2.1 Alternative 1	3-11
3.2.2 Alternative 2	3-12
3.2.3 Alternative 3	3-15
3.2.4 Alternative 4	3-16
3.2.5 Alternative 5	3-17
3.2.6 Alternative 6 Defer Decision	3-18
3.2.7 Alternative 7 No-Action	3-18
Chapter 4. ENVIRONMENTAL SETTINGS	4-1
4.1 Project Setting	4-1
4.2 Physical Environment	4-2
4.2.1 Climate and Meteorology	4-2
4.2.2 Air Quality	4-3
4.2.3 Water Quality	4-4
4.2.3.1 Importance of Habitat Loss, Degradation, and Modification	4-10
4.2.4 Geology	4-12
4.2.5 Oceanography	4-15
4.2.5.1 Importance of El Niño Events	4-19
4.2.5.2 Marine Ecosystem Disturbance	4-22

4.3	Biological Environment	4-24
4.3.1	Biogeographic Regions	4-24
4.3.2	Habitat Types	4-24
4.3.2.1	Intertidal Habitat	4-25
4.3.2.2	Subtidal Habitat	4-26
4.3.2.3	Kelp Forest Habitat	4-29
4.3.2.4	Surfgrass and Eelgrass Habitat	4-31
4.3.2.5	Water Column Habitats	4-34
4.3.2.6	Essential Fish Habitat (EFH)	4-35
4.3.3	Biological Resources and Species of Interest	4-36
4.3.3.1	Plankton	4-36
4.3.3.2	Macroalgae and Vascular Plants	4-40
4.3.3.3	Invertebrates	4-42
4.3.3.4	Fishes	4-54
4.3.3.5	Seabirds and Shorebirds	4-103
4.3.3.6	Sea Turtles	4-117
4.3.3.7	Marine Mammals	4-117
4.3.3.8	Threatened, Endangered and Special Status Species	4-132
4.4	Human Environment	4-134
4.4.1	Commercial Fishing	4-139
4.4.1.1	Aquaculture	4-139
4.4.1.2	Commercial Fisheries Harvest	4-139
4.4.3	Recreation and Tourism	4-161
4.4.3.1	Consumptive Activities	4-161
4.4.3.2	Non-Consumptive Activities	4-162
4.4.4	Oil and Gas	4-173

4.4.5 Vessel Traffic and Harbors	4-174
4.4.5.1 Commercial Vessel Traffic	4-174
4.4.5.2 Ports and Harbors	4-174
4.4.6 Noise	4-175
4.4.7 Cultural, Historic, and Archaeological Resources	4-176
Chapter 5. ENVIRONMENTAL IMPACTS OF THE PROPOSED PROJECT	5-1
5.1 Introduction	5-1
5.2 Physical Environment	5-4
5.2.1 Air Quality	5-4
5.2.2 Water Quality	5-4
5.2.3 Geology	5-5
5.2.4 Oceanography	5-5
5.3 Biological Environment	5-6
<u>5.3.1 Threshold of Significance for Biological Impacts</u>	5-6
5.3.1.1 Biological Criteria <u>for Comparisons of MPA Benefits</u> ...	5-6
5.3.2 Biological Impacts	5-20
5.3.2.1 Impacts of the Proposed Project	5-20
5.3.2.2 Cumulative Impacts of the Proposed Project and Federal Waters Phase	5-36
5.4 Human Environment	5-38
5.4.1 Socioeconomic methods and Criteria	5-39
5.4.2 Impacts to Commercial Fishing	5-48
5.4.3 Recreational Fishing	5-54
5.4.4 Non-Consumptive Uses	5-57
5.4.5 Oil and Gas Resources	5-60
5.4.6 Vessel Traffic	5-60

5.4.7 Noise	5-60
5.4.8 Cultural, Historic, and Archaeological Resources	5-61
5.5 Measures Proposed to Mitigate Environmental Effects	5-61
5.6 Relationship Between Short-Term Human Uses of the Natural Environment and the Maintenance of Long-Term Productivity	5-58
5.7 Irreversible or Irretrievable Commitments of Resources	5-58
Chapter 6. ENVIRONMENTAL IMPACTS OF ALTERNATIVES	6-1
6.1 Alternative 1	6-1
6.1.1 Natural Environment	6-1
6.1.2 Human Environment	6-5
6.2 Alternative 2	6-13
6.2.1 Natural Environment	6-13
6.2.2 Human Environment	6-17
6.3 Alternative 3	6-26
6.3.1 Natural Environment	6-26
6.3.2 Human Environment	6-30
6.4 Alternative 4	6-38
6.4.1 Natural Environment	6-38
6.4.2 Human Environment	6-42
6.5 Alternative 5	6-51
6.5.1 Natural Environment	6-51
6.5.2 Human Environment	6-55
6.6 Defer Decision	6-64
6.7 No Action	6-65
6.8 Comparison of Alternatives	6-66
6.8.1 Environmental Impacts	6-66

6.8.2 Economic Impacts	6-70
Chapter 7. CONSULTATION	7-1
LITERATURE CITED	L-1
GLOSSARY	G-1
APPENDICES	
Appendix 1 Fish and Game Code, Public Resources Code, and Title 14	A1-1
Appendix 2 Proposed Regulatory Changes Sections 27.82(a), 630(b)(5), 630(b)(101), 630(b)(102), Title 14, CCR	A2-1
Appendix 3 History of the Channel Islands Marine Reserves Working Group Process	A3-1
Appendix 4 Species of Interest	A4-1
Appendix 5 Descriptions of Proposed and Alternative MPA Networks	A5-1

VOLUME II

Chapter 8. RESPONSES TO COMMENTS REGARDING THE PROPOSED

<u>PROJECT</u>	<u>8-1</u>
<u>8.1 List of Comments Received</u>	<u>8-2</u>
<u>8.2 Department Response to Comments</u>	<u>8-15</u>
<u>8.3 Copy of Comments Received</u>	<u>8-75</u>
<u>Appendix 6 Marine Protected Areas and Potential Benefits to Selected Species:</u> <u>A Response to the California Fish and Game Commission</u>	<u>A6-1</u>
<u>Appendix 7 Response to Report on Marine Reserve Proposals for the</u> <u>Channel Islands National Marine Sanctuary, Exhibit E.1.c.,</u> <u>Supplemental SSC Report, September 2001</u>	<u>A7-1</u>

List of Tables

	Page
Table E-1	Summary of impacts expected by the proposed project and the alternatives E-5
Table 3-1	Summary of existing regulations and proposed amendments 3-2
Table 4-1	Habitat classification and the approximate abundance of each criterion in each biogeographical regions in the project area 4-25
Table 4-2	Distribution of some common fish species in the project area 4-55
Table 4-3	Seabirds associated with the project area 4-103
Table 4-4	Seabird, shorebird, and wading bird species breeding in the project area 4-107
Table 4-5	Birds with special status under Federal or California State law found in the project area 4-109
Table 4-6	Cetaceans: Odontocetes - Oceanic Dolphins in the Project Area 4-120
Table 4-7	Cetaceans: Mysticetes - Right Whales in the Project Area 4-123
Table 4-8	Cetaceans: Odontocetes - True Porpoises in the Project Area 4-124
Table 4-9	Cetaceans: Odontocetes - Sperm Whales in the Project Area 4-124
Table 4-10	Cetaceans: Mysticetes - Gray Whales in the Project Area 4-125
Table 4-11	Cetaceans: Mysticetes – Rorquals in the Project Area 4-126
Table 4-12	Pinnipeds: Otariids in the Project Area 4-129
Table 4-13	Pinnipeds: Phocids in the Project Area 4-130
Table 4-14	Carnivores: Mustelids in the Project Area 4-131
Table 4-15	Species with special status under Federal or California State law found in the project area 4-134
Table 4-16	Selected socioeconomic measures for description of impact area 4-136
Table 4-17	Personal income and employment by county 4-137
Table 4-18	Local/Regional economic dependence on The Sanctuary: personal income 4-138
Table 4-19	Local/Regional economic dependence on The Sanctuary:

	employment	4-138
Table 4-19A	<u>Table 4-19A. General summary of existing commercial fishing prohibitions in the project area. Note that this is not a complete reproduction of all fishing regulations (e.g., size limits and gear restrictions) and should not be used for legal compliance.</u>	4-147
Table 4-20	Commercial fishing ex-vessel value for the CDFG 22 block definition of the Sanctuary	4-149
Table 4-21	Economic impact of commercial fishing and kelp harvesting	4-152
Table 4-22	Commercial fishing: multi-species fishery	4-153
Table 4-23	Socioeconomic profiles: commercial fishermen	4-154
Table 4-24	Socioeconomic profiles: squid/wetfish fishermen	4-156
Table 4-25	Comparative profiles: tri-county fishermen	4-158
Table 4-26	Relative supply of selected Sanctuary commercial species, 1999	4-160
Table 4-27	Number of marine recreational fishing trips in southern California	4-164
Table 4-28	Summary of trends in marine recreational catch in southern California	4-165
Table 4-29	Changes in top 20 species in marine recreational catch in southern California	4-165
Table 4-30	Person days of recreation activity in the Sanctuary	4-165
Table 4-31	Charter/party boat operations in the Sanctuary	4-170
Table 4-32	Expenditure profiles for recreational activities in the Sanctuary	4-171
Table 4-33	Baseline consumptive recreational activity	4-172
Table 4-34	Baseline non-consumptive recreational activity	4-172
Table 4-35	Shipwrecks with identified locations in the project area	4-178
Table 5-1	Combined direct effects of proposed locations for State waters	5-3
Table 5-2	Application of ecological criteria for marine reserve design	5-16
Table 5-3	Total and percent representation of ecological criteria protected in each bioregion in the proposed project	5-22

Table 5-3A	<u>Table 5-3A. Numbers of boats or traps potentially displaced by the proposed project on the day of highest use recorded by the Sanctuary's aerial monitoring program (SAMSAP)</u>	5-35
Table 5-4	Cumulative total and percent representation of ecological criteria protected in each bioregion in the proposed project and the Federal waters phase	5-38
Table 5-5	Commercial fishing & kelp: impact of proposed project on ex-vessel value by species group - step 1 analysis	5-49
Table 5-6	Commercial fishing & kelp: impact of proposed project on ex-vessel value by port - step 1 analysis	5-50
Table 5-7	Commercial fishing & kelp: impact of proposed project total income by county - step 1 analysis	5-51
Table 5-8	Commercial fishing & kelp: impact of proposed project total employment by county - step 1 analysis	5-51
Table 5-9	Commercial fishing & kelp: summary of impacts by individual reserves	5-52
Table 5-10	Summary: recreational consumptive activities - proposed project - step 1 analysis	5-54
Table 5-11	Recreational consumptive activities - proposed project - State waters - step 1 analysis	5-55
Table 5-12	Recreational consumptive activities - proposed project - cumulative total including Federal waters phase - step 1 analysis	5-55
Table 5-13	Economic impact associated with non-consumptive activities - proposed project - State waters	5-58
Table 5-14	Economic impact associated with non-consumptive activities - proposed project - cumulative total including Federal waters phase . . .	5-58
Table 5-15	Potential benefits to non-consumptive users from the proposed project - step 2 analysis	5-59
Table 6-1	Total and percent representation of ecological criteria protected by State Marine Reserves proposed as Alternative 1	6-3
Table 6-2	Commercial fishing & kelp: impact of Alternative 1 on ex-vessel value by species group - step 1 analysis	6-5
Table 6-3	Commercial fishing & kelp: impact of Alternative 1 on ex-vessel value by port - step 1 analysis	6-6

Table 6-4	Commercial fishing & kelp: impact of Alternative 1 on total income by county - step 1 analysis	6-7
Table 6-5	Commercial fishing & kelp: impact of Alternative 1 on total employment by county - step 1 analysis	6-7
Table 6-6	Summary: recreational consumptive activities for State and Federal Phases - Alternative 1 - step 1 analysis	6-9
Table 6-7	Recreational consumptive activities - Alternative 1 - step 1 analysis ...	6-10
Table 6-8	Recreational consumptive activities - Alternative 1 - cumulative total including Federal waters phase - step 1 analysis	6-10
Table 6-9	Economic impact associated with non-consumptive activities - Alternative 1 - State waters	6-12
Table 6-10	Economic impact associated with non-consumptive activities - Alternative 1 - cumulative total including Federal phase	6-12
Table 6-11	Potential benefits to non-consumptive users from Alternative 1 - step 2 analysis	6-13
Table 6-12	Total and percent representation of ecological criteria protected by State Marine Reserves proposed as Alternative 2	6-15
Table 6-13	Commercial fishing & kelp: impact of Alternative 2 on ex-vessel value by species group - step 1 analysis	6-18
Table 6-14	Commercial fishing & kelp: impact of Alternative 2 on ex-vessel value by port - step 1 analysis	6-19
Table 6-15	Commercial fishing & kelp: impact of Alternative 2 on total income by county - step 1 analysis	6-20
Table 6-16	Commercial fishing & kelp: impact of Alternative 2 on total employment by county - step 1 analysis	6-20
Table 6-17	Summary: recreational consumptive activities - Alternative 2 - step 1 analysis	6-22
Table 6-18	Recreational consumptive activities - Alternative 2 - step 1 analysis ...	6-23
Table 6-19	Recreational consumptive activities - Alternative 2 - cumulative total including Federal waters phase - step 1 analysis	6-23
Table 6-20	Economic impact associated with non-consumptive activities - Alternative 2 - State waters	6-25
Table 6-21	Economic impact associated with non-consumptive activities - Alternative 2 - cumulative total including Federal phase	6-25

Table 6-22	Potential benefits to non-consumptive users from Alternative 2 - step 2 analysis	6-26
Table 6-23	Total and percent representation of ecological criteria protected by State Marine Reserves proposed as Alternative 3	6-28
Table 6-24	Commercial fishing & kelp: impact of Alternative 3 on ex-vessel value by species group - step 1 analysis	6-30
Table 6-25	Commercial fishing & kelp: impact of Alternative 3 on ex-vessel value by port - step 1 analysis	6-31
Table 6-26	Commercial fishing & kelp: impact of Alternative 3 on total income by county - step 1 analysis	6-32
Table 6-27	Commercial fishing & kelp: impact of Alternative 3 on total employment by county - step 1 analysis	6-32
Table 6-28	Summary: recreational consumptive activities - Alternative 3 - step 1 analysis	6-34
Table 6-29	Recreational consumptive activities - Alternative 3 - step 1 analysis ...	6-35
Table 6-30	Recreational consumptive activities - Alternative 3 - cumulative total including Federal waters phase - step 1 analysis	6-35
Table 6-31	Economic impact associated with non-consumptive activities - Alternative 3 - State waters	6-37
Table 6-32	Economic impact associated with non-consumptive activities - Alternative 3 - cumulative total including Federal phase	6-37
Table 6-33	Potential benefits to non-consumptive users from Alternative 3 - step 2 analysis	6-38
Table 6-34	Total and percent representation of ecological criteria protected by State Marine Reserves proposed as Alternative 4	6-40
Table 6-35	Commercial fishing & kelp: impact of Alternative 4 on ex-vessel value by species group - step 1 analysis	6-43
Table 6-36	Commercial fishing & kelp: impact of Alternative 4 on ex-vessel value by port - step 1 analysis	6-44
Table 6-37	Commercial fishing & kelp: impact of Alternative 4 on total income by county - step 1 analysis	6-45
Table 6-38	Commercial fishing & kelp: impact of Alternative 4 on total employment by county - step 1 analysis	6-45

Table 6-39	Summary: recreational consumptive activities - Alternative 4 - step 1 analysis	6-47
Table 6-40	Recreational consumptive activities - Alternative 4 - step 1 analysis ...	6-48
Table 6-41	Recreational consumptive activities - Alternative 4 - cumulative total including Federal waters phase - step 1 analysis	6-48
Table 6-42	Economic impact associated with non-consumptive activities - Alternative 4 - State waters	6-49
Table 6-43	Economic impact associated with non-consumptive activities - Alternative 4 - cumulative total including Federal phase	6-50
Table 6-44	Potential benefits to non-consumptive users from Alternative 4 - step 2 analysis	6-50
Table 6-45	Total and percent representation of ecological criteria protected by State Marine Reserves proposed as Alternative 5	6-53
Table 6-46	Commercial fishing & kelp: impact of Alternative 5 on ex-vessel value by species group - step 1 analysis	6-56
Table 6-47	Commercial fishing & kelp: impact of Alternative 5 on ex-vessel value by port - step 1 analysis	6-57
Table 6-48	Commercial fishing & kelp: impact of Alternative 5 on total income by county - step 1 analysis	6-58
Table 6-49	Commercial fishing & kelp: impact of Alternative 5 on total employment by county - step 1 analysis	6-58
Table 6-50	Summary: recreational consumptive activities - Alternative 5 - step 1 analysis	6-60
Table 6-51	Recreational consumptive activities - Alternative 5 - step 1 analysis ...	6-61
Table 6-52	Recreational consumptive activities - Alternative 5 - cumulative total including Federal waters phase - step 1 analysis	6-61
Table 6-53	Economic impact associated with non-consumptive activities - Alternative 5 - State waters	6-62
Table 6-54	Economic impact associated with non-consumptive activities - Alternative 5 - cumulative total including Federal phase	6-63
Table 6-55	Potential benefits to non-consumptive users from Alternative 5 - step 2 analysis	6-63

<u>Table 6-55A</u>	<u>Area (square nautical miles) and percentage habitat representation for each bioregion within the Project Area</u>	<u>6-66</u>
Table 6-56	Representative habitat for the proposed project and Alternatives 1-5	6-67
<u>Table 6-56A</u>	<u>Relative comparison of alternatives based on other biological criteria</u>	<u>6-69</u>
Table 6-57	Aggregate consumptive activities: summary of impacts by alternative - step 1 analysis	6-70
<u>Table 6-57A</u>	<u>Maximum potential loss in annual ex-vessel value to commercial fisheries by species group (1996-1999 average values) for the initial state waters phase</u>	<u>6-72</u>
<u>Table 6-57B</u>	<u>Maximum potential loss in annual income generated by consumptive recreational activities for the initial state waters phase</u>	<u>6-73</u>
<u>Table 6-57C</u>	<u>Maximum potential impact in annual income generated by non-consumptive activities for the initial state waters phase</u>	<u>6-74</u>
<u>Table 6-57D</u>	<u>Maximum potential loss in annual income generated by commercial fisheries by county for the initial state waters phase</u>	<u>6-75</u>
Table 6-58	Habitat representation per dollar of impact on income	6-76
Table 6-59	Summary: Potential cumulative economic impacts on non-consumptive activities - Step 2 analysis	6-78
<u>Table 8-1</u>	<u>Comments received regarding the Draft Environmental Document and proposed regulation for Marine Protected Areas in NOAA's Channel Islands National Marine Sanctuary</u>	<u>8-3</u>
<u>Table 8-2</u>	<u>Summary of individuals submitting the form email (Comment E-03) through the Environmental Defense Action Network web site</u>	<u>8-249</u>

List of Figures

	Page
Figure 1-1	Southern California bight and the project area 1-2

Figure 1-2	Potential ecological/biological benefits and costs of marine reserves	1-10
Figure 2-1	Composite map of areas of overlap and non-overlap	2-14
Figure 3-1	Proposed marine protected area network	3-4
Figure 3-2	Marine protected area network Alternative 1	3-11
Figure 3-3	Marine protected area network Alternative 2	3-12
Figure 3-4	Marine protected area network Alternative 3	3-15
Figure 3-5	Marine protected area network Alternative 4	3-16
Figure 3-6	Marine protected area network alternative 5	3-17
Figure 4-1	Bathymetry of the project area	4-13
Figure 4-2	Bottom sediment types in the project area	4-15
Figure 4-3	Giant kelp canopies of the project area	4-30
Figure 4-4	Distribution of seagrasses within the project area	4-32
Figure 4-5	Distribution of breeding seabird diversity in the project area	4-108
Figure 4-6	Important transition areas used by birds in the project area	4-109
Figure 4-7	Simplified food web showing linkages between sea lion and other marine life, including fishes, in the project area	4-118
Figure 4-8	Distribution of the number of marine mammal species found in haul-out and rookery sites in the project area	4-119
Figure 4-9	Socioeconomic counties of impact	4-135
Figure 4-10	Spatial distribution of kelp value in the project area	4-150
Figure 4-11	Spatial distribution of squid value in the project area	4-150
Figure 4-12	Spatial distribution of wetfish value in the project area	4-151
Figure 4-13	Spatial distribution of tuna value in the project area	4-151
Figure 4-14	Spatial distribution of person-days of charter/party boat fishing in the project area	4-166
Figure 4-15	Spatial distribution of person-days of charter/party boat consumptive diving in the project area	4-166

Figure 4-16	Spatial distribution of person-days of private boat fishing in the project area	4-167
Figure 4-17	Spatial distribution of person-days of private boat consumptive diving in the project area	4-167
Figure 4-18	Spatial distribution of person-days of whale watching activity in the project area	4-168
Figure 4-19	Spatial distribution of person-days of non-consumptive diving in the project area	4-169
Figure 4-20	Spatial distribution of person-days of sailing activity in the project area	4-169
Figure 4-21	Spatial distribution of person-days of kayaking/sightseeing activity in the project area	4-170
<u>Figure 8-1</u>	<u>The summed results of habitat analysis showing areas of high habitat heterogeneity</u>	<u>8-36</u>

Defined Terms

ABC - Acceptable Biological Catch
ASBS - Areas of Special Biological Significance
BLM - Bureau of Land Management
CAAQS - California Ambient Air Quality
CalCOFI - California Cooperative Oceanic and Fisheries Investigations
Cal EPA - California Environmental Protection Agency
CCC - California Coastal Commission (Coastal Commission)
CCR - California Code of Regulations
CDFG - California Department of Fish and Game (Department)
CEC - California Energy Resources, Conservation & Development Commission
CEQA - California Environmental Quality Act
CESA - California Endangered Species Act
CINMS - Channel Islands National Marine Sanctuary (Sanctuary)
CINP-KFMP - Channel Islands National Park Kelp Forest Monitoring Program
Coastal Conservancy - California State Coastal Conservancy
CORPS - Army Corps of Engineers
CPFV - Commercial Passenger Fishing Vessel
CPS - Coastal Pelagic Species
CSC - California Special Concern
CSU - California State University
CWA - Clean Water Act
CZCS - Coastal Zone Color Scanner
CZMA - Coastal Zone Management Act
DBW - California Department of Boating and Waterways
DED - Draft Environmental Document
DEIR - Draft Environmental Impact Report
DFG - California Department of Fish and Game (Department)
DOC - California Department of Conservation
DOC - Department of Commerce
DOGGR - Division of Oil, Gas, and Geothermal Resources
DPR - California Department of Parks and Recreation
DWR - California Department of Water Resources
ED - Environmental Document
EEZ - Exclusive Economic Zone
EFH - Essential Fish Habitat
EIR - Environmental Impact Report
EN - El Nino
ENSO - El Nino Southern Oscillation
EPA - Environmental Protection Agency
ESA - Endangered Species Act
FEAM - Fishery Economic Assessment Model

FED - Final Environmental Document
FGC - California Fish and Game Commission (Commission)
FMP - Fishery Management Plans
FWS - Fish and Wildlife Service
GIS - Geographic Information system
HAPC - Habitat Areas of Particular Concern
IATTC - Inter-American tropical Tuna Commission
INPFC - International North Pacific Fisheries Commission
ISOR - Initial Statement of Reasons for Regulatory Action
ITQ - Individual Transferable Quota
IWC - International Whaling Commission
LCP - Local Coastal Program
MBTA - Migratory Bird Treaty Act
MCA - Marine Conservation Area
MFCMA - Magnuson Fishery Conservation and Management Act
MLMA - Marine Life Management Act
MLPA - Marine Life Protection Act
MLPP - Marine Life Protection Program
MMA - Marine Managed Area
MMAP - Marine Mammal Authorization Program
MMPA - Marine Mammal Protection Act of 1972
MMS - Minerals Management Service
MNBMC - Migratory Nongame Bird of Management Concern
MOA - Memorandum of Agreement
MOU - Memorandum of Understanding
MPA - Marine Protected Area
MPRSA - Marine Protection Research and Sanctuaries Act of 1972
MRFSS - Marine Recreational Fisheries Statistics Survey
MRPA - Marine Resources Protection Act
MRWG - Marine Reserves Working Group
MSY - Maximum Sustainable Yield
NAAQS - National Ambient Air Quality Standards
NC - Non-Consumptive
ND - Negative Declaration
NEPA - National Environmental Policy Act
NFMP - Nearshore Fishery Management Plan
NISA - National Invasive Species Act
NMFS - National Marine Fisheries Service
NMSP - National Marine Sanctuary Program
NOAA - National Oceanic and Atmospheric Administration
NOP - Notice of Preparation
NOS - National Ocean Service

NPDES - National Pollutant Discharge Elimination System
 NPS - National Park Service
 NSP - Non Point Source Pollution
 Ocean Plan - California Ocean Plan
 OCS - Outer Continental Shelf
 OPA - Oil Pollution Act of 1990
 OSP - Optimum Sustainable Population
 OSPR - Oil Spill Prevention and Response
 Panel - Socioeconomic Panel
 PBR - Potential Biological Removals
 PFMC - Pacific Fishery Management Council (Council)
 PSMFC - Pacific States Marine Fisheries Commission
 RecFIN - Recreational Fisheries Information Network
 ROC - Reactive Organic Compounds
 ROV - Remote Operated Vehicle
 RWQCB - Regional Water Quality Control Boards
 SAC - Sanctuary Advisory Council
 SAP - Science Advisory Panel
 SCAB - South Coast Air Basin
 SCAMIT - Southern California Association of Marine Invertebrate Taxonomists
 SCB - Southern California Bight
 SCBPP - Southern California Bight Pilot Project
 SCCWRP - Southern California Coastal Water Research Project
 SCUBA - Self Contained Underwater Breathing Apparatus
 SIC - Standard Industry Category
 SLC - California State Lands Commission
 SMMA - Soufriere Marine Management Area
 SMR - State Marine Reserves
 SMCA - State Marine Conservation Area
 SO - Southern Oscillation
 SSC - Science and Statistical Committee
 SST - Sea Surface Temperatures
 State Tidelands - State Tidelands and Submerged Lands
 SWRCB - State Water Resources Control Board
 T & E - Threatened and Endangered
 UCSB - University of California Santa Barbara
 USCG - United States Coast Guard
 USFWS - United States Fish and Wildlife Service
 USGS - United States Geological Survey
 USN - United States Navy
 VAFB - Vandenberg Air Force Base

CONVERSION TABLE

Metric to U.S. Customary

<u>Multiply</u>	<u>By</u>	<u>To Obtain</u>
millimeters (mm)	0.03937	inches
centimeters (cm)	0.3937	inches
meters (m)	3.281	feet
kilometers (km)	0.6214	miles
square meters (m ²)	10.76	square feet
square kilometers (km ²)	0.3861	square miles
hectares (ha)	2.471	acres
liters (l)	0.2642	gallons
cubic meters (m ³)	35.31	cubic feet
cubic meters	0.0008110	acre-feet
milligrams (mg)	0.00003527	ounces
grams (g)	0.03527	ounces
kilograms (kg)	2.205	pounds
metric tons (t)	2205.0	pounds
metric tons	1.102	short tons
kilocalories (kcal)	3.968	BTU
Celsius degrees	1.8(°C) + 32	Fahrenheit degrees

U.S. Customary to Metric

<u>Multiply</u>	<u>By</u>	<u>To Obtain</u>
inches	25.40	millimeters
inches	2.54	centimeters
feet (ft)	0.3048	meters
fathoms	1.829	meters
miles (mi)	1.609	kilometers
nautical miles (nmi)	1.852	kilometers
square feet (ft ²)	0.0929	square meters
acres	0.4047	hectares
square miles (mi ²)	2.590	square kilometers
gallons (gal)	3.785	liters
cubic feet (ft ³)	0.02831	cubic meters
acre-feet	1233.0	cubic meters
ounces (oz)	28.35	grams
pounds (lb)	0.4536	kilograms
short tons (ton)	0.9072	metric tons
British thermal units (BTU)	0.2520	kilocalories
Fahrenheit degrees	0.5556(°F - 32)	Celsius degrees